

AMENDMENTS

In the Claims

Please amend the claims as follows:

1. (currently amended) A method of quantifying the stability of a placement tool used in mapping the physical layout of logic cells for an integrated circuit chip, comprising the steps of: designing a first layout of logic cells using the placement tool based on a first set of input parameters;

5 designing a second layout of the logic cells using the placement tool based on a second set of input parameters which is different from the first set of input parameters; and

calculating a stability value based on the movement of respective cell locations from the first layout to the second layout; and

10 normalizing the stability value based on respective cell locations in a third layout which is a random placement of the logic cells.

2. (canceled)

3. (original) The method of Claim 1 wherein said calculating step measures absolute movement of individual logic cells.

4. (original) The method of Claim 3 wherein cell movement is weighted by cell area in calculating the stability value.

5. (original) The method of Claim 3 wherein absolute cell movement is squared in calculating the stability value.

6. (original) The method of Claim 1 wherein said calculating step measures relative movement of logic cells with respect to the one or more nets of the layouts.

7. (original) The method of Claim 6 wherein shifting of logic cells and symmetric reversal of logic cells about a net center does not contribute to the relative movement, but spreading of logic cells and rotation of logic cells with respect to the net center does contribute to the relative movement.

8. (original) The method of Claim 6 wherein relative cell movement is squared in calculating the stability value.

9. (original) The method of Claim 1 wherein the placement tool uses an annealing algorithm, and the first and second sets of input parameters have different annealing schedules.

10. (original) The method of Claim 1 wherein the placement tool uses a multi-level algorithm, and the first and second sets of input parameters have different random seeds for clustering.

11. (original) The method of Claim 1 wherein the placement tool uses a quadratic algorithm, and the first and second sets of input parameters have different stopping criteria.

12. (currently amended) A computer system comprising:

means for processing program instructions;

a memory device connected to said processing means; and

program instructions residing in said memory device for quantifying the stability of a

5 placement tool used in mapping the physical layout of logic cells for an integrated
circuit chip, wherein said program instructions design a first layout of logic cells
using the placement tool based on a first set of input parameters, design a second
layout of the logic cells using the placement tool based on a second set of input
parameters which is different from the first set of input parameters, and calculate
10 a stability value based on the movement of respective cell locations from the first
layout to the second layout, and normalize the stability value based on respective
cell locations in a third layout which is a random placement of the logic cells.

13. (canceled)

14. (original) The computer system of Claim 12 wherein said program instructions measure absolute movement of individual logic cells.

15. (original) The computer system of Claim 14 wherein said program instructions weight cell movement by cell area in calculating the stability value.

16. (original) The computer system of Claim 14 wherein said program instructions square absolute cell movement in calculating the stability value.

17. (original) The computer system of Claim 12 wherein said program instructions measure relative movement of logic cells with respect to the one or more nets of the layouts.

18. (original) The computer system of Claim 17 wherein shifting of logic cells and symmetric reversal of logic cells about a net center does not contribute to the relative movement, but spreading of logic cells and rotation of logic cells with respect to the net center does contribute to the relative movement.

19. (original) The computer system of Claim 17 wherein said program instructions square relative cell movement in calculating the stability value.

20. (currently amended) A computer program product comprising:

a computer-readable medium; and

program instructions residing in said medium for quantifying the stability of a placement tool used in mapping the physical layout of logic cells for an integrated circuit chip, wherein said program instructions design a first layout of logic cells using the placement tool based on a first set of input parameters, design a second layout of the logic cells using the placement tool based on a second set of input parameters which is different from the first set of input parameters, and calculate a stability value based on the movement of respective cell locations from the first

layout to the second layout, and normalize the stability value based on respective cell locations in a third layout which is a random placement of the logic cells.

21. (canceled).

22. (original) The computer program product of Claim 20 wherein said program instructions measure absolute movement of individual logic cells.

23. (currently amended) The computer program product of Claim ~~23~~ 22 wherein said program instructions weight cell movement by cell area in calculating the stability value.

24. (original) The computer program product of Claim 23 wherein said program instructions square absolute cell movement in calculating the stability value.

25. (original) The computer program product of Claim 20 wherein said program instructions measure relative movement of logic cells with respect to the one or more nets of the layouts.

26. (original) The computer program product of Claim 25 wherein shifting of logic cells and symmetric reversal of logic cells about a net center does not contribute to the relative movement, but spreading of logic cells and rotation of logic cells with respect to the net center does contribute to the relative movement.

27. (original) The computer program product of Claim 25 wherein said program instructions square relative cell movement in calculating the stability value.

28. (new) A method of quantifying the stability of a placement tool used in mapping the physical layout of logic cells for an integrated circuit chip, comprising the steps of:

designing a first layout of logic cells using the placement tool based on a first set of input parameters;

5 designing a second layout of the logic cells using the placement tool based on a second
set of input parameters which is different from the first set of input parameters;
and
calculating a stability value based on the movement of respective cell locations from the
first layout to the second layout, wherein said calculating step measures relative
10 movement of logic cells with respect to the one or more nets of the layouts, and
shifting of logic cells and symmetric reversal of logic cells about a net center does
not contribute to the relative movement but spreading of logic cells and rotation
of logic cells with respect to the net center does contribute to the relative
movement.

29. (new) A computer system comprising:

means for processing program instructions;

a memory device connected to said processing means; and

program instructions residing in said memory device for quantifying the stability of a

5 placement tool used in mapping the physical layout of logic cells for an integrated
circuit chip, wherein said program instructions design a first layout of logic cells
using the placement tool based on a first set of input parameters, design a second
layout of the logic cells using the placement tool based on a second set of input
parameters which is different from the first set of input parameters, and calculate
10 a stability value based on the movement of respective cell locations from the first
layout to the second layout, wherein relative movement of logic cells is measured
with respect to the one or more nets of the layouts, and shifting of logic cells and
symmetric reversal of logic cells about a net center does not contribute to the
relative movement but spreading of logic cells and rotation of logic cells with
15 respect to the net center does contribute to the relative movement.

30. (new) A computer program product comprising:

a computer-readable medium; and

program instructions residing in said medium for quantifying the stability of a placement
tool used in mapping the physical layout of logic cells for an integrated circuit

5 chip, wherein said program instructions design a first layout of logic cells using
the placement tool based on a first set of input parameters, design a second layout
of the logic cells using the placement tool based on a second set of input
parameters which is different from the first set of input parameters, and calculate
a stability value based on the movement of respective cell locations from the first
10 layout to the second layout, wherein relative movement of logic cells is measured
with respect to the one or more nets of the layouts, and shifting of logic cells and
symmetric reversal of logic cells about a net center does not contribute to the
relative movement but spreading of logic cells and rotation of logic cells with
respect to the net center does contribute to the relative movement.